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## 論文審査の結果の要旨及び担当者

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## 論文審査の結果の要旨

子宮頸がんの原因となる HPV16・18 型の感染は、子宮頸がん予防ワクチンの接種により防ぐことができる。日本では 2013 年 4 月から 12-16 歳を対象とした定期接種が始まったが、同年 6 月以降、副反応とされる多様な症状の出現の影響で厚生労働省によるワクチン接種の勧奨が一時中止された状態がつづいており、その結果、生まれ年によってワクチンの接種率に大きな差が生じている。

1993 年度～2008 年度生まれの日本女性の 20 歳時の HPV16・18 型感染リスクを、生まれ年度ごとに算出することで、子宮頸がん予防ワクチンの接種率の生まれ年度による違いから生じる、将来の HPV 感染リスクの格差を最小限に留めるには、2016 年度中の勧奨再開が望ましいことが明らかとなった。さらに、厚生労働省による勧奨再開が来年度以降になる場合には、勧奨中止期間に 12-16 歳であった女兒を接種対象に含めることでその影響を最小限にできる可能性が明らかとなった。

本研究は、早期の接種勧奨再開により HPV 感染リスク上昇の不利益を防ぐことが出来ることを示すことで、日本の行政に一石を投じたものであり、学位に値するものと認める。

論 文 内 容 の 要 旨  
Synopsis of Thesis

氏 名 Name	田中 佑典
論文題名 Title	Outcomes for girls without HPV vaccination in Japan (出生年度によって異なるHPVワクチン接種率をもたらす、将来のHPV16/18感染リスクの格差)
論文内容の要旨	
〔目的(Purpose)]	
<p>In Japan, HPV vaccination became available to girls aged 12–16 with public. However, the media began repetitively reporting that adverse events might be linked to the HPV vaccine, even though it was not exactly known whether these effects were actually caused by the vaccine. The Ministry of Health, Labor and Welfare of Japan suspended its active recommendation for the HPV vaccination. As a result, the HPV vaccination rate has significantly dropped. If the current situation continues in Japan, there is concern that disparities might occur in the incidence of HPV infections, and result in future highly preventable cervical and other HPV-related cancers, depending on an unfortunate year of birth. Based on this scenario, we herein make predictions about infection rate for HPV 16/18 in Japanese women at the age of 20 years, depending on their year of birth.</p>	
〔方法(Methods)]	
<p>Data assumed the risk of HPV 16/18 infection at 20 years old in women having sexual intercourse, who were born in 1993 is 1. The calculations were conducted based on the following assumptions: 1) HPV infection risk correlates to the rate of experiencing sexual intercourse without HPV vaccination. 2) The rates of experiencing sexual intercourse at the ages of 20, 19, 18, 17, 16, 15, 14, 13 and 12 are assumed to be 65%, 55%, 42%, 25%, 15%, 5%, 2%, 1% and 0%, respectively. 3) During the encouragement period (except in 2013), female youths were vaccinated at the youngest target age. 4) In 2010, the vaccination rate among 13-16-year old females was at 70%. 5) In 2013, the vaccination rate among 12 and 13 year-olds was at 1% and 4%, respectively. 6) The cumulative vaccination rate after resuming vaccination encouragement is at 70%. 7) There is no correlation between rates of sexual intercourse experience and vaccination rate.</p>	
〔成績(Results)]	
<p>Suppose that vaccination encouragement rapidly resumes in fiscal year 2016 for those aged 12–16 years, the HPV 16/18 infection rate at the age of 20 years for women born in 2000–03 will only slightly increase compared with those born in other years. However, in the event that encouragement is not resumed until 2020, girls born between 2000 and 2003 will have a noticeably high HPV 16/18 positive rate compared with female children born in other years. We found that, by resuming vaccination encouragement in 2016, the number of HPV infections in girls who did not receive HPV vaccines could be kept to a minimum.</p> <p>Even including girls aged 12–16 during encouragement suspension in addition to girls aged 12–16 at the time of vaccination encouragement resumption as a tentative relief measure, if recommendation is not resumed until 2020, some girls might have had sexual intercourse by that time, increasing the HPV infection rate compared with that when resuming vaccination encouragement in 2016.</p>	
〔総括(Conclusion)]	
<p>Japan's failure to provide HPV vaccination for young women will lead to increased incidences of HPV-related cancers.</p>	